

FIG. 1

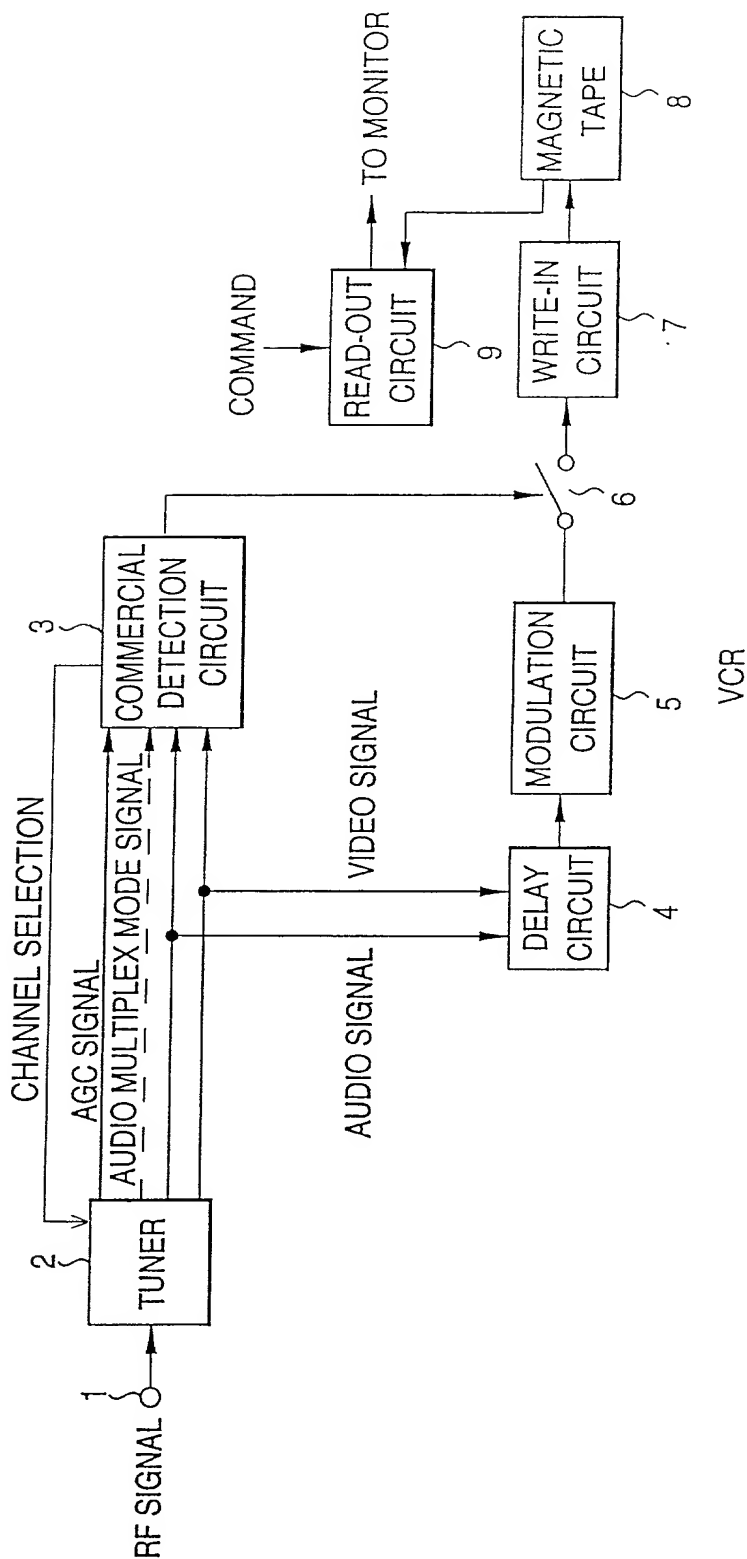


FIG. 2

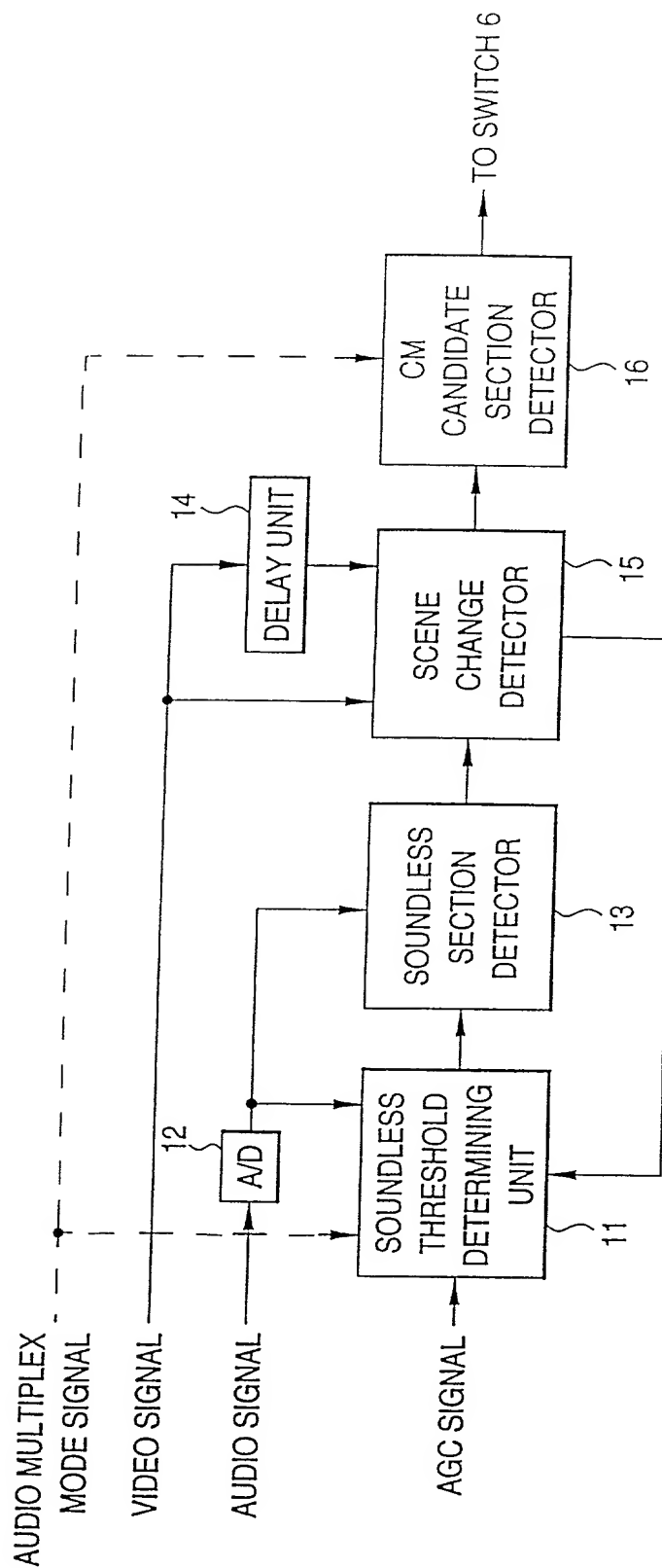
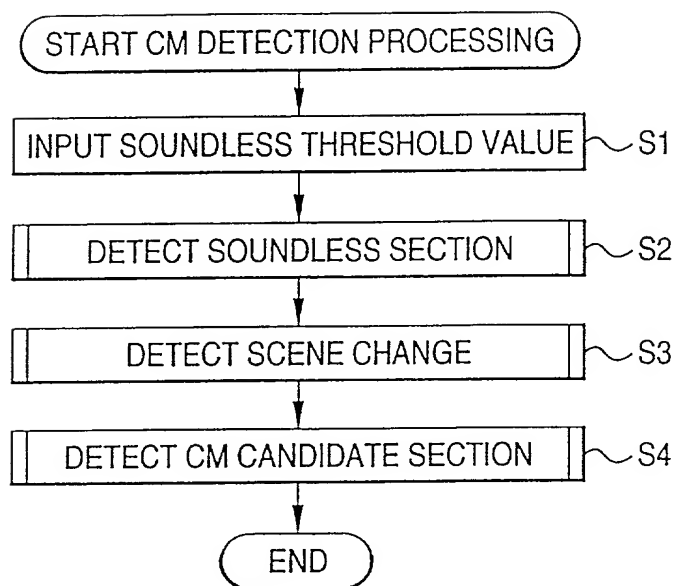
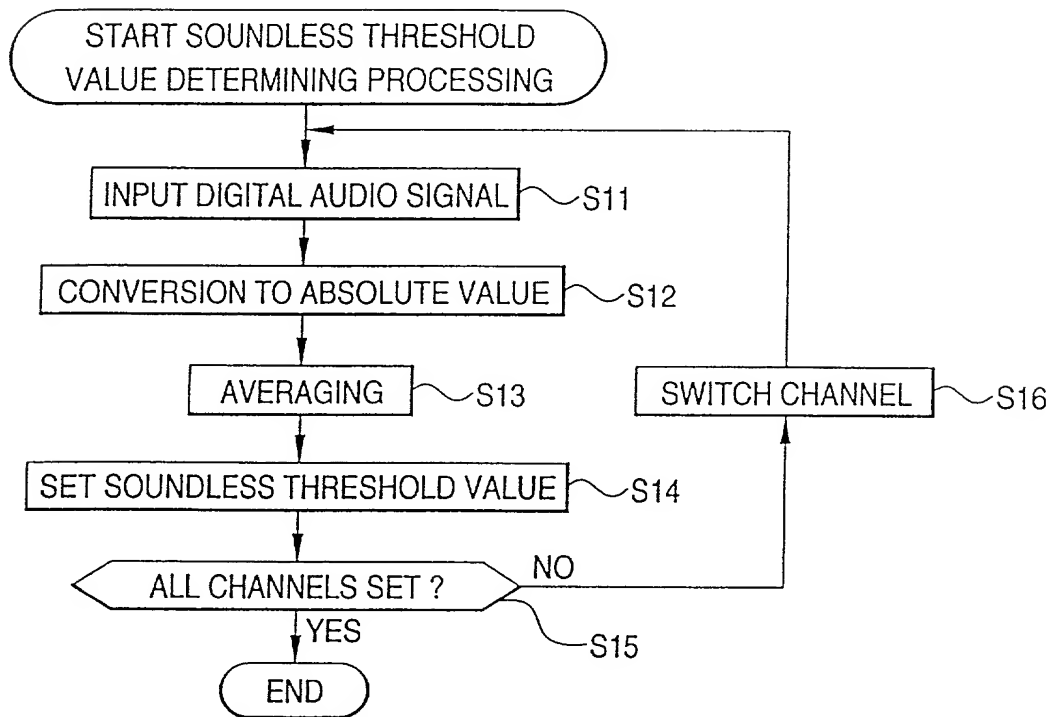


FIG. 3



1002449 12004
DOCKET # 217478US-6 DIV

FIG. 4



10022419.12001

FIG. 5 (A)

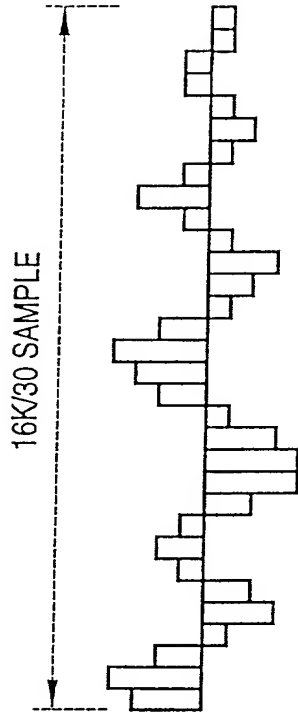


FIG. 5 (B)

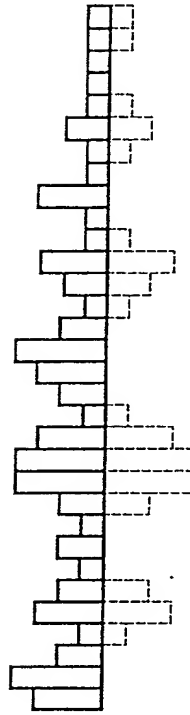


FIG. 5 (C)

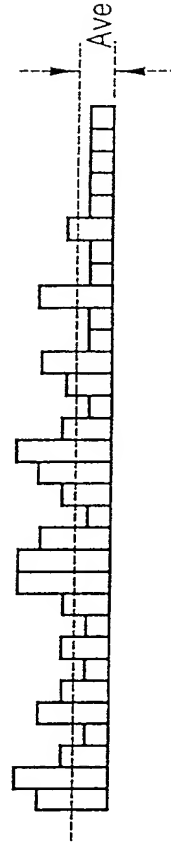


FIG. 6

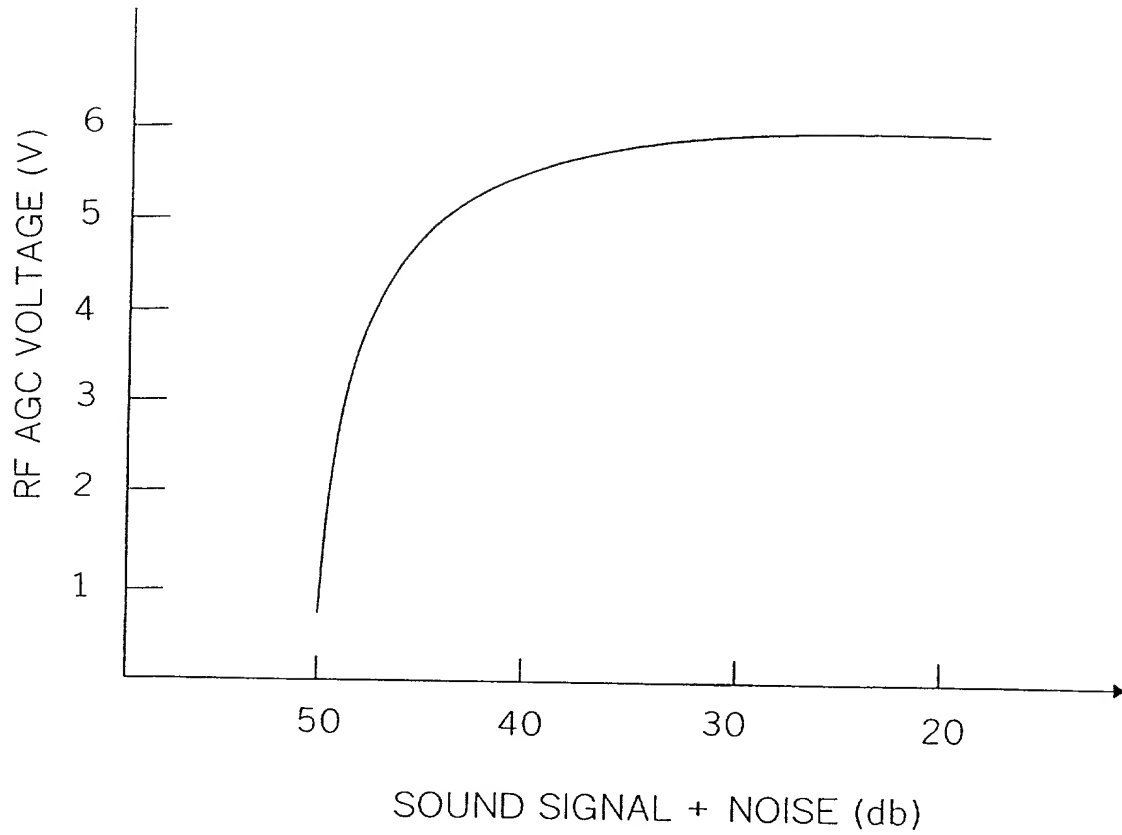
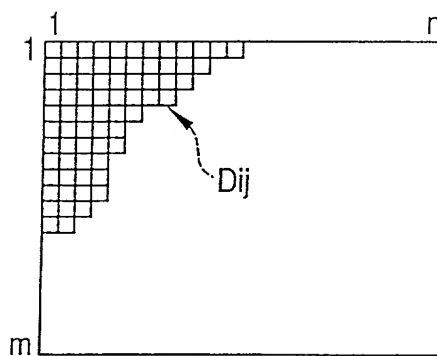


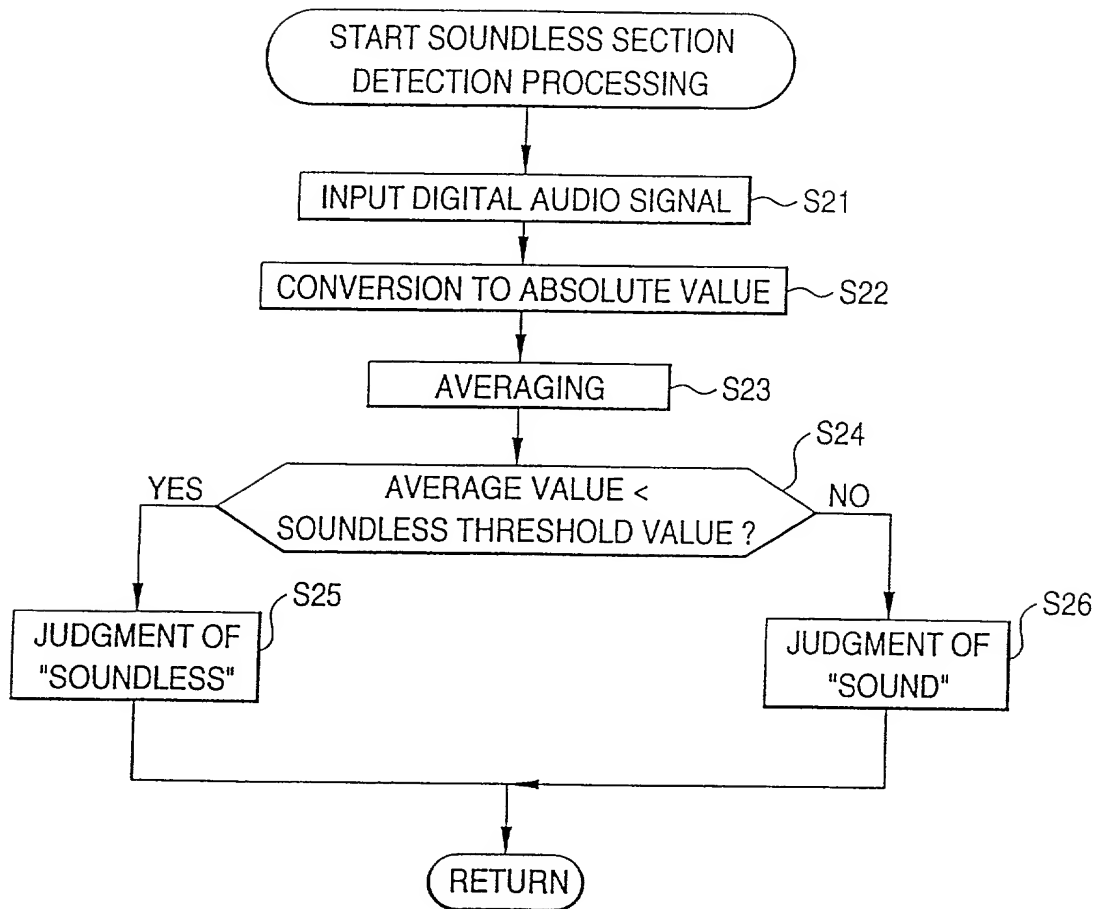
FIG. 7

DELAY PICTURE



$$Y_A = \frac{\sum_{i=1}^n \sum_{j=1}^m D_{ij}}{n \times m}$$

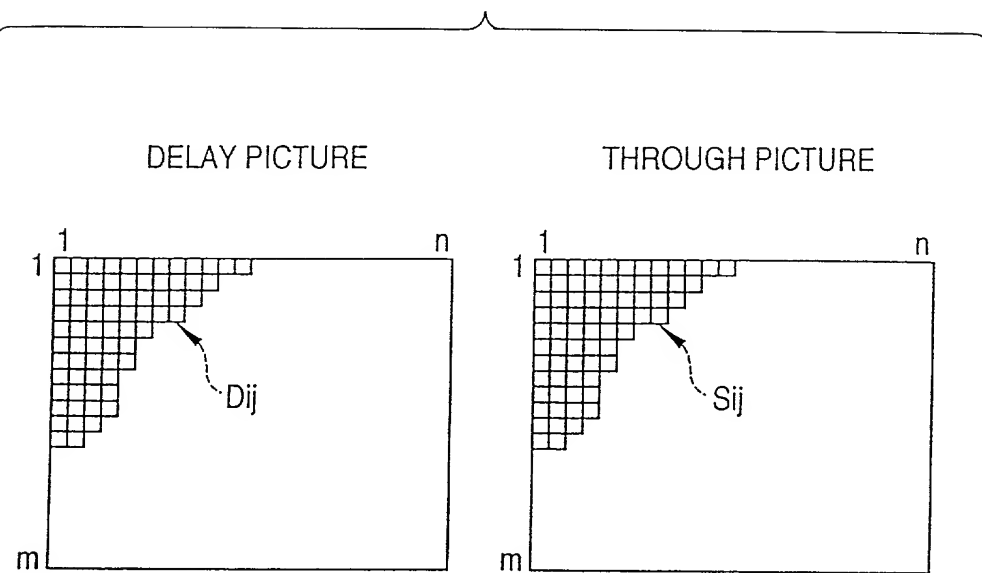
FIG. 8




```

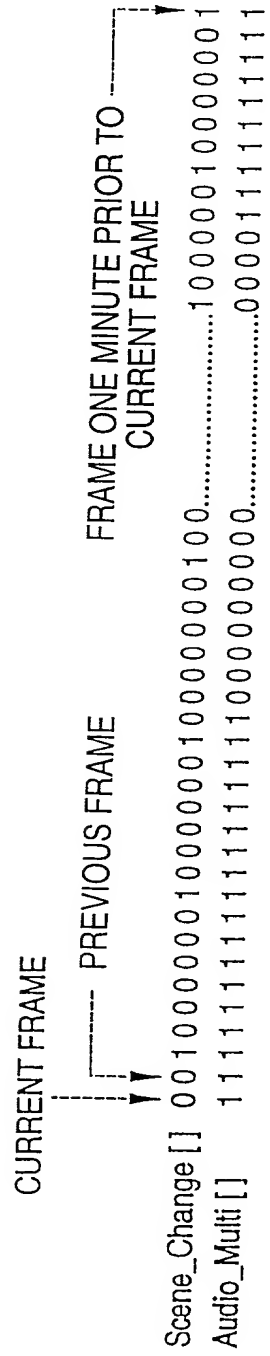
graph TD
    Start([START SCENE CHANGE  
DETECTION PROCESSING]) --> S31{ "SOUNDLESS" JUDGED ? }
    S31 -- YES --> S32[ CALCULATE INTER-FRAME  
CORRELATION VALUE ]
    S31 -- NO --> S35[ NO SCENE CHANGE ]
    S32 --> S33{ CORRELATION VALUE >  
THRESHOLD VALUE ? }
    S33 -- YES --> S34[ SCENE CHANGE ]
    S33 -- NO --> S35
    S34 --> Return([RETURN])
    S35 --> Return
  
```

FIG. 10



$$E = \sum_{i=1}^n \sum_{j=1}^m |D_{ij} - S_{ij}|$$

FIG. 11



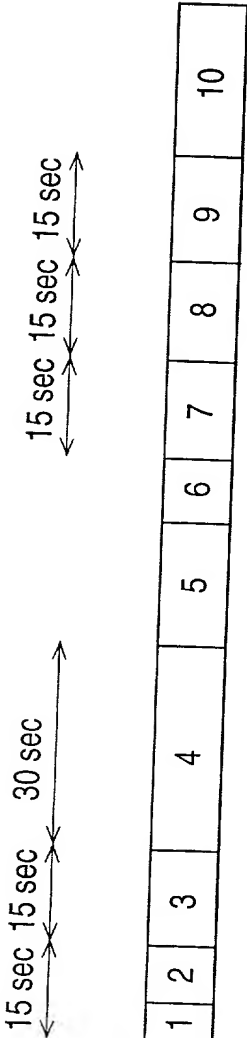


FIG. 12 (A)

SCENE CHANGE
SECTION

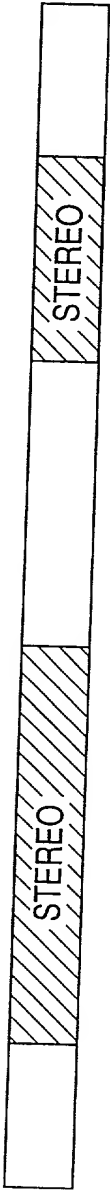


FIG. 12 (B)

AUDIO MULTIPLEX
MODE SECTION

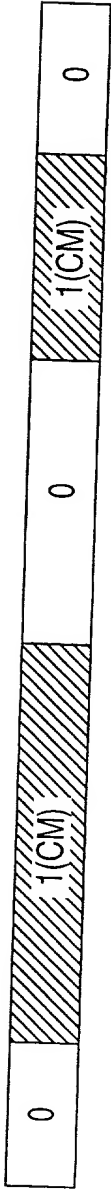
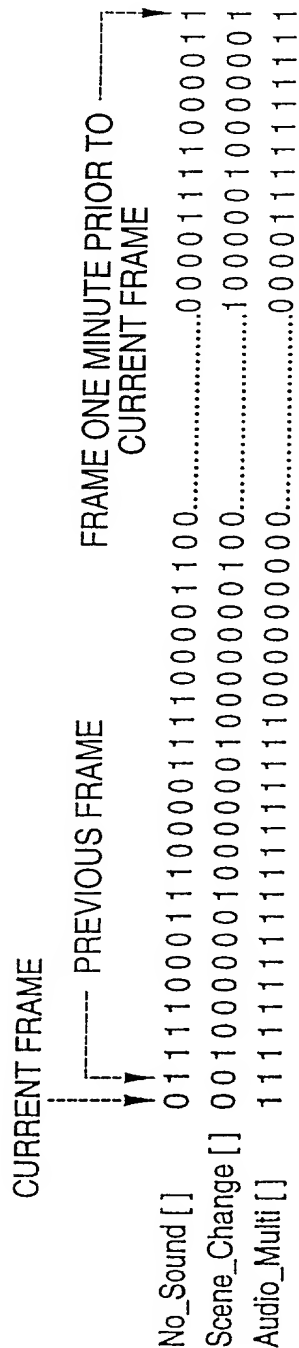


FIG. 12 (C)

CM CANDIDATE
SECTION

FIG. 13

FIG. 13



DOCKET # 217478US-6

FIG. 14 (A)

SOUNDLESS

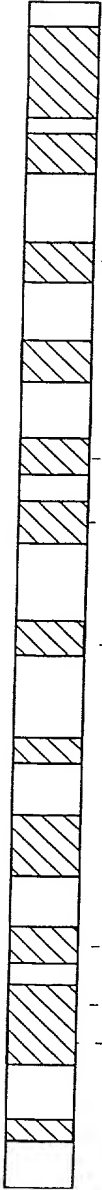


FIG. 14 (B)

SCENE CHANGE

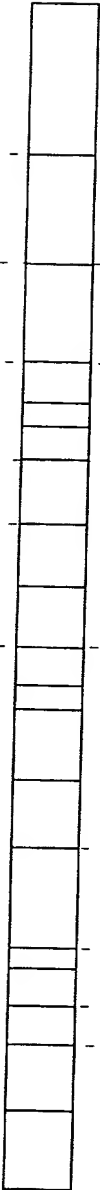


FIG. 14 (C)

(A) AND (C)

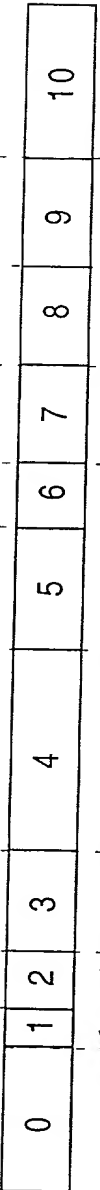


FIG. 14 (D)

GROUPING

15 sec 15 sec 30 sec 15 sec 15 sec 15 sec



FIG. 14 (E)

AUDIO MODE

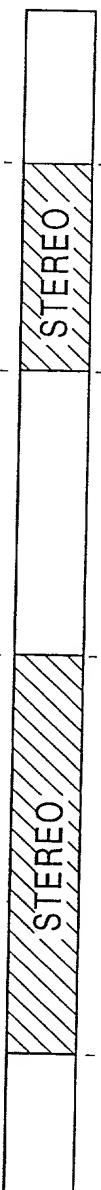


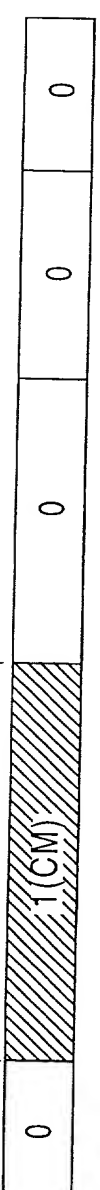
FIG. 14 (F)

CM CANDIDATE
SECTION



FIG. 14 (G)

CM JUDGEMENT RESULT



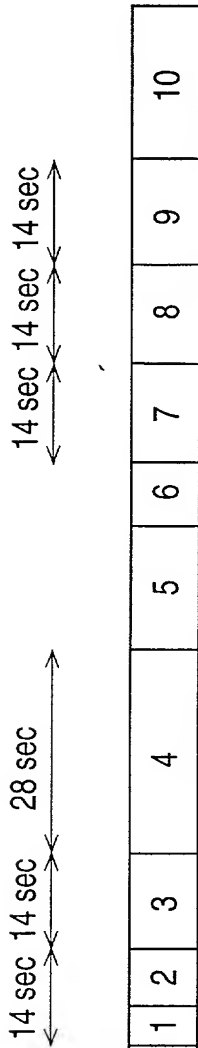


FIG. 15 (A)

SCENE CHANGE
SECTION

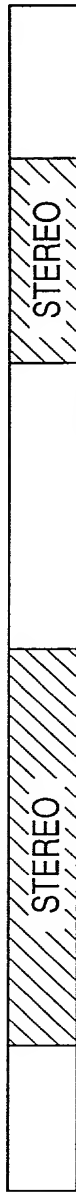


FIG. 15 (B)

AUDIO MULTIPLEX
MODE SECTION

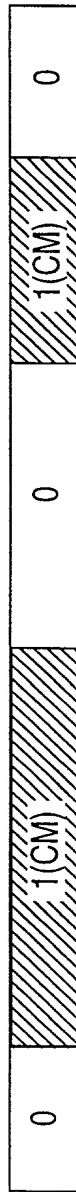
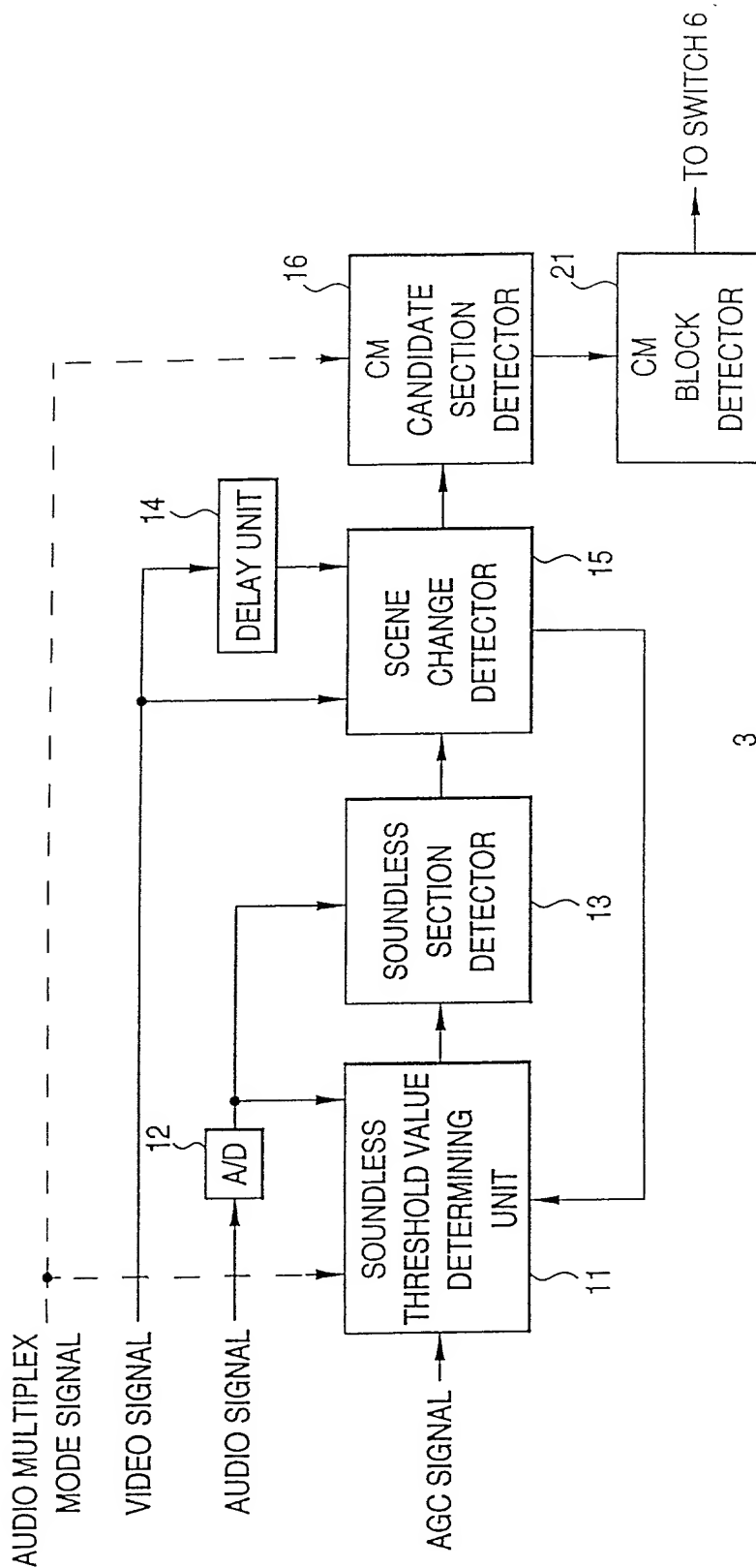


FIG. 15 (C)

CM CANDIDATE
SECTION

FIG. 16



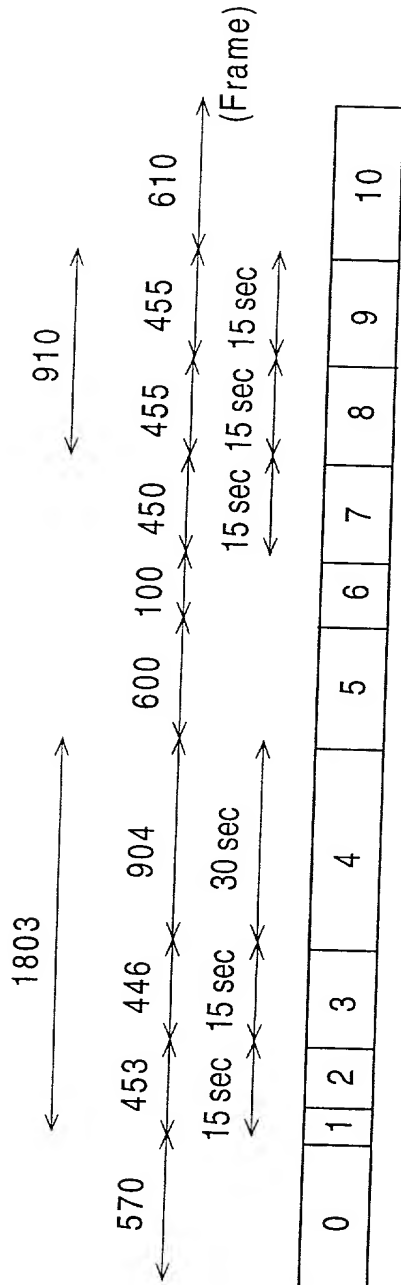


FIG. 17 (A)
QUIET SCENE
CHANGE SECTIONS

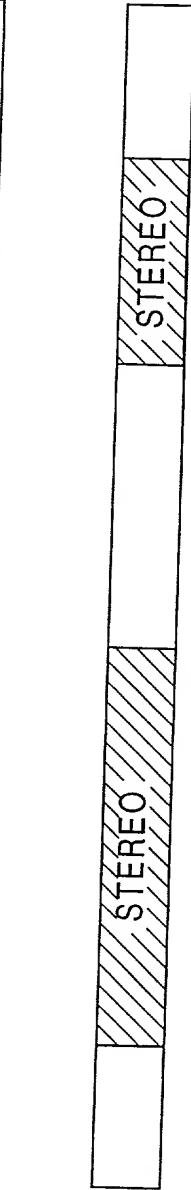


FIG. 17 (B)
AUDIO MULTIPLEX
MODE SECTIONS

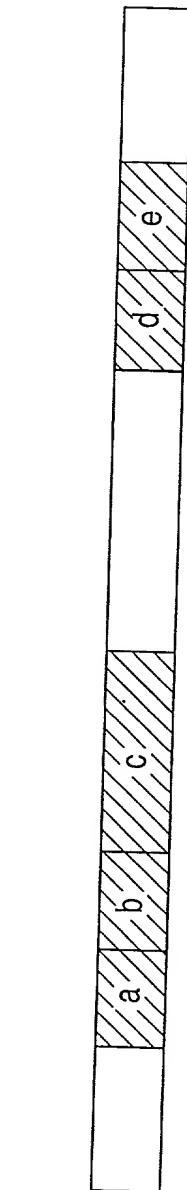


FIG. 17 (C)
COMMERCIAL
CANDIDATE SECTIONS

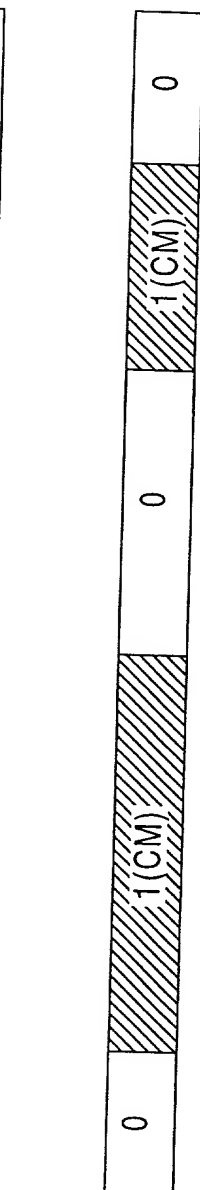


FIG. 17 (D)
COMMERCIAL
CANDIDATE BLOCKS

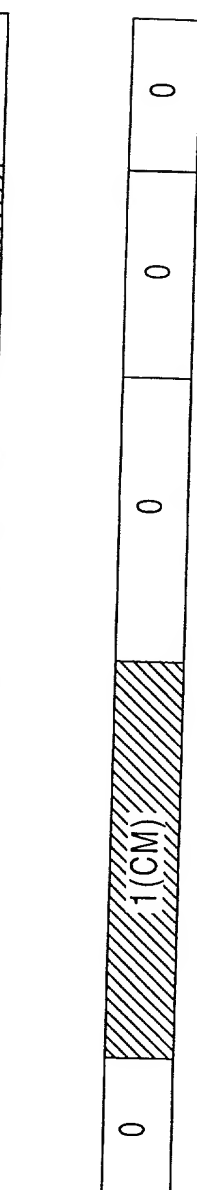


FIG. 17 (E)
COMMERCIAL
BLOCK

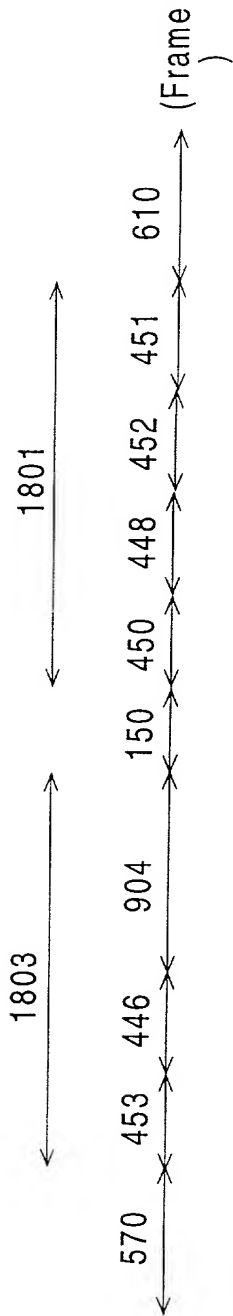


FIG. 18 (A)

QUIET SCENE
CHANGE SECTIONS

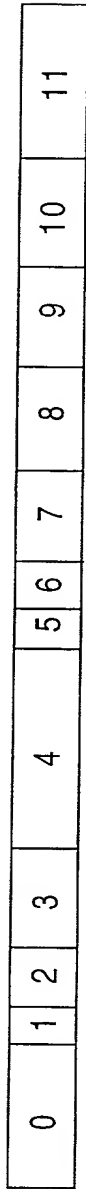


FIG. 18 (B)

AUDIO MULTIPLEX
MODE SECTIONS

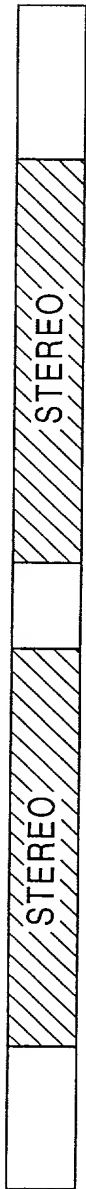


FIG. 18 (C)

COMMERCIAL
CANDIDATE SECTIONS

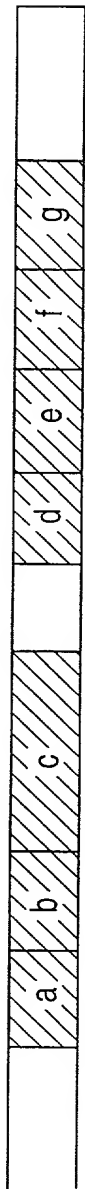


FIG. 18 (D)

COMMERCIAL
CANDIDATE BLOCKS

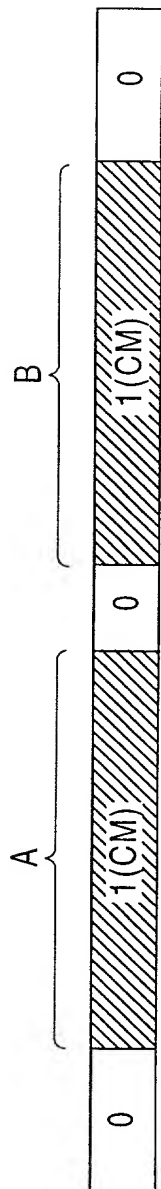


FIG. 18 (E)

COMMERCIAL
BLOCK



FIG. 3 is a block diagram of a video signal processing system. The system receives three main inputs: an AUDIO MULTIPLEX MODE SIGNAL, a VIDEO SIGNAL, and an AUDIO SIGNAL. The VIDEO SIGNAL is processed by an A/D converter (12) and a DELAY UNIT (14). The AUDIO SIGNAL is processed by a QUIET THRESHOLD DETERMINING UNIT (11). The QUIET THRESHOLD DETERMINING UNIT (11) outputs a QUIET SECTION DETECTOR (13). The QUIET SECTION DETECTOR (13) outputs a SCENE CHANGE DETECTOR (15). The SCENE CHANGE DETECTOR (15) outputs a COMMERCIAL CANDIDATE SECTION DETECTOR (16). The COMMERCIAL CANDIDATE SECTION DETECTOR (16) outputs a COMMERCIAL FEATURE AMOUNT DETECTOR (31). The COMMERCIAL FEATURE AMOUNT DETECTOR (31) outputs TO SWITCH 6.

FIG. 20

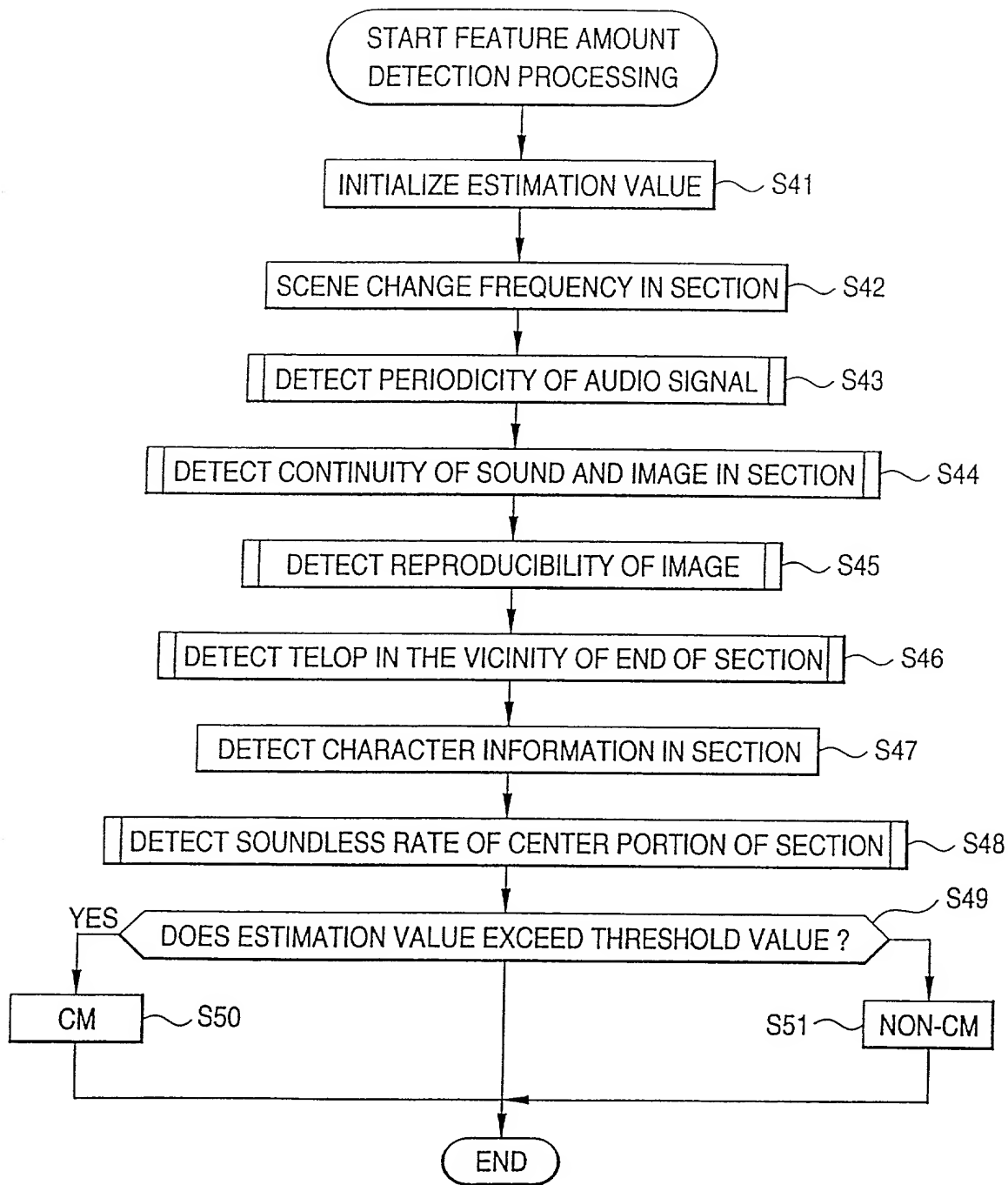
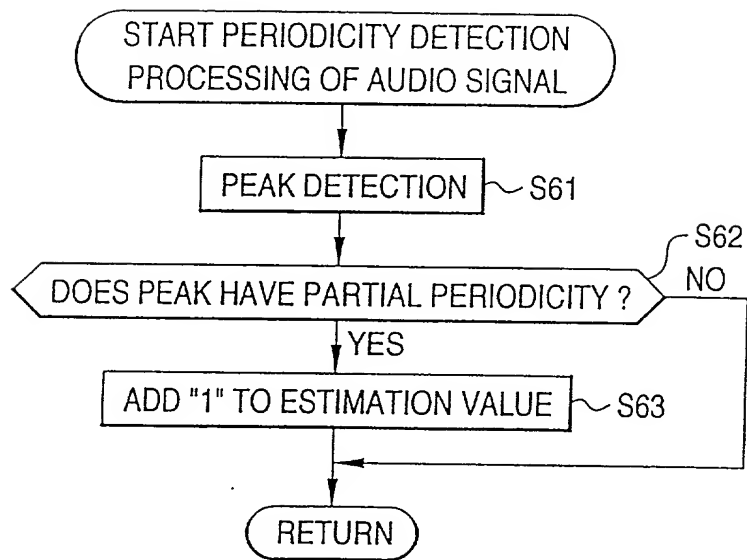


FIG. 20

FIG. 21



1002449-12004
DOCKET # 672207

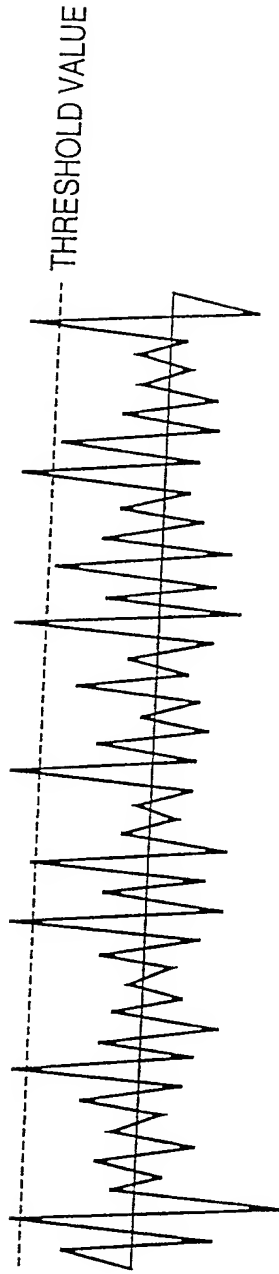


FIG. 22 (A)

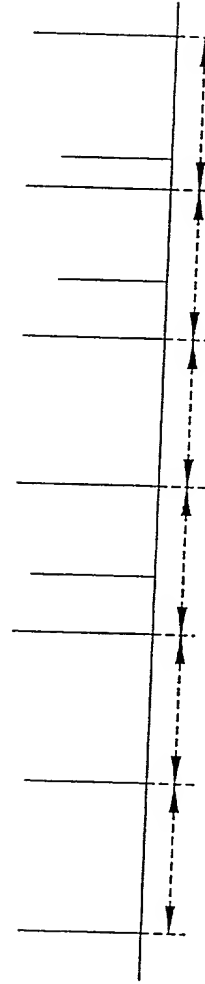
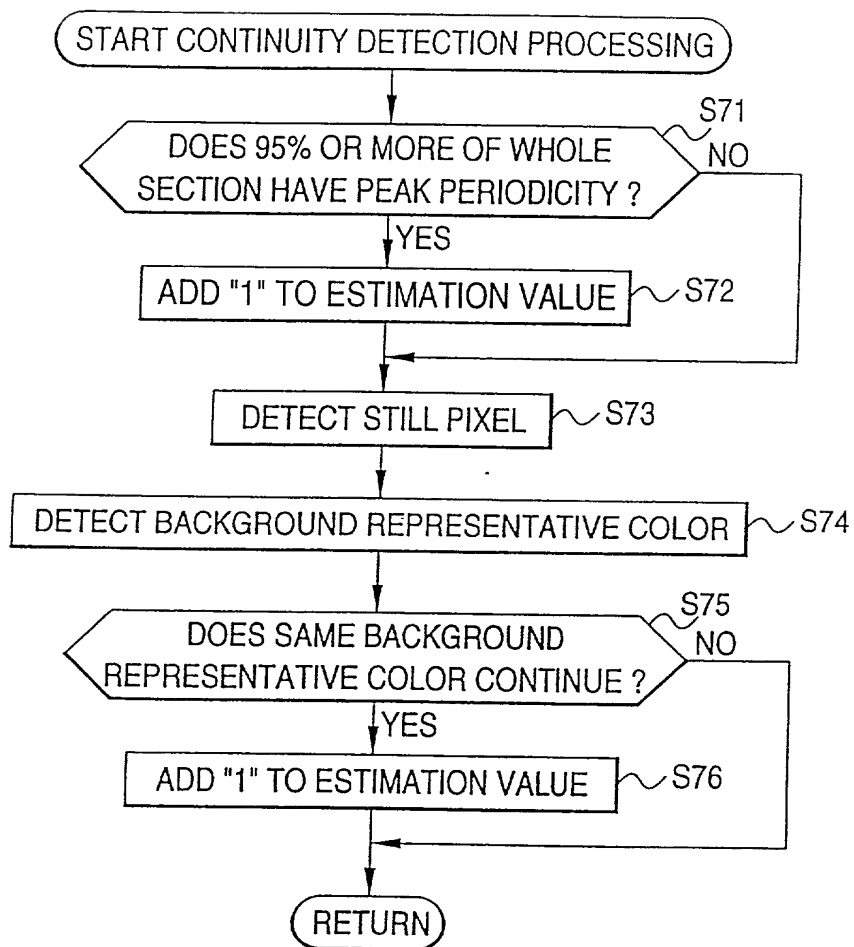


FIG. 22 (B)

FIG. 23



Sheet 23 of 29

FIG. 24

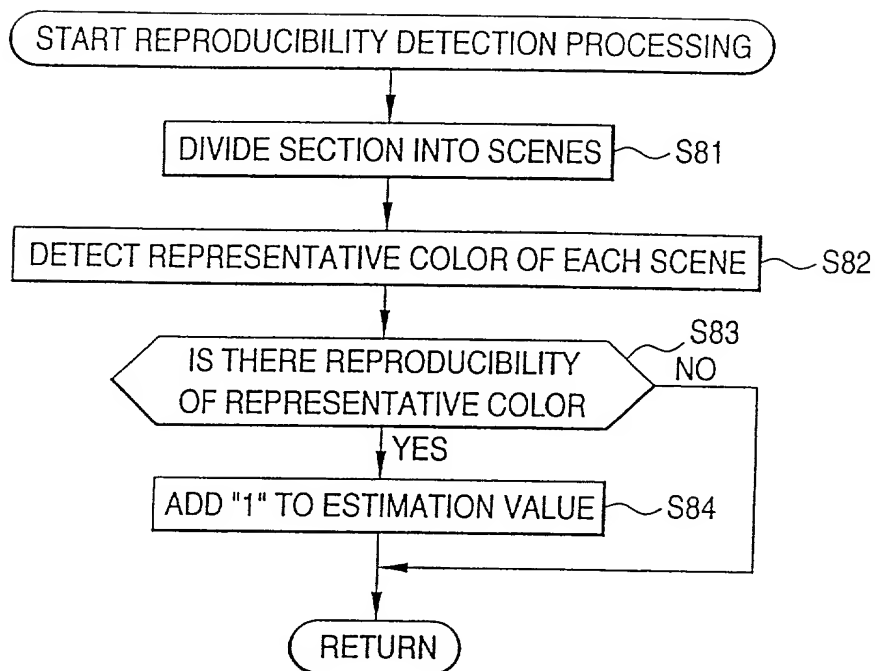
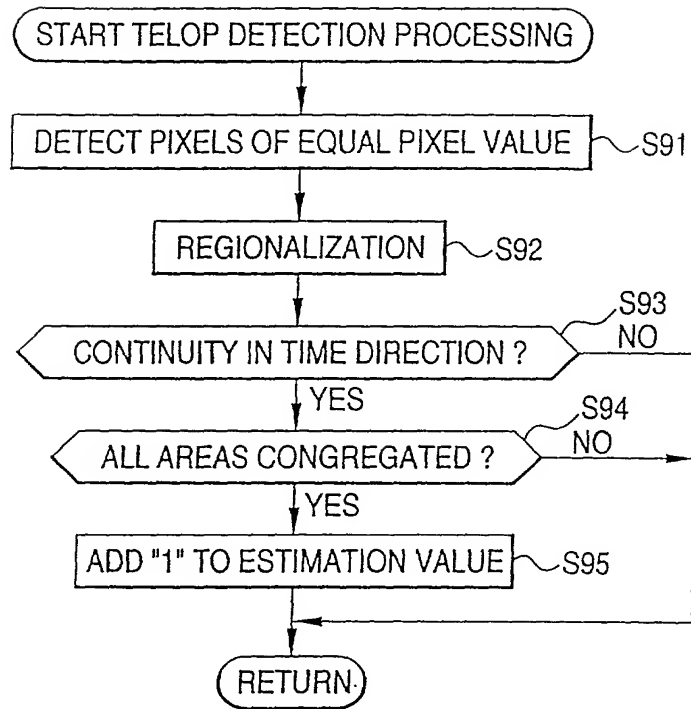


FIG. 25



100224.9 "122001

FIG. 26 (A)



FIG. 26 (B)

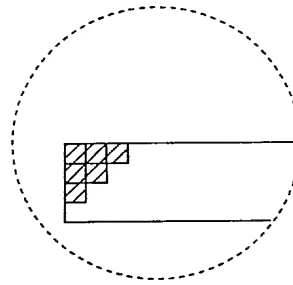
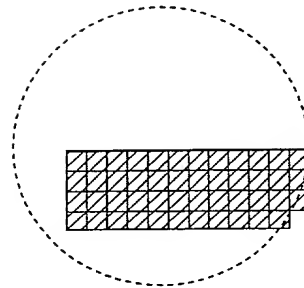
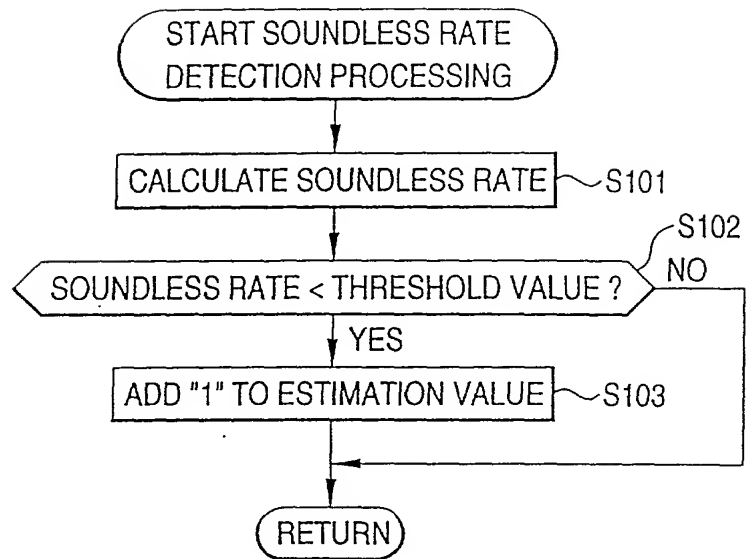


FIG. 26 (C)



10022419 122001

FIG. 27



1003449 " 122001

FIG. 28

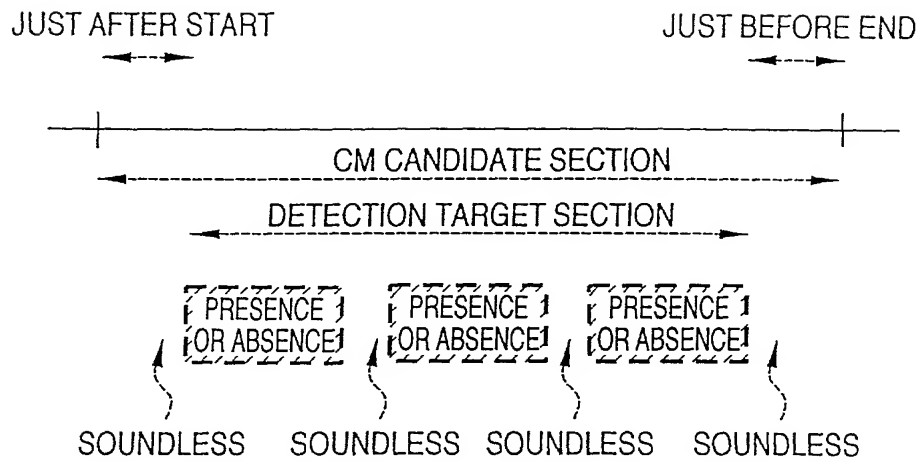


FIG. 28

FIG. 29

